

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/692,045	KIRA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Thomas D. Lee	2624	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed September 2, 2004.
2. ☒ The allowed claim(s) is/are 1-5.
3. ☒ The drawings filed on 29 November 2000 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |                                                                                                                     |                                                                                        |
|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                         | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|                                                                                                                     | 9. <input type="checkbox"/> Other _____.                                               |

## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. Claims 1-5 are allowed.
2. The following is an examiner's statement of reasons for allowance:

Regarding claims 1 and 2, no prior art has been found to disclose or suggest an extended  $\epsilon$ -filter image processing apparatus that includes "a signal processing section for adding the small-amplitude variation component calculated by the calculation section to the input image to provide a wrinkle enhanced image, and for subtracting the small-amplitude variation component from the input image to provide a smooth skin image; and an output section for outputting at least one of the wrinkle enhanced image and the smooth skin image according to an instruction from a correction instruction section."

Regarding claim 3, no prior art has been found to disclose or suggest an image processing apparatus with primary and secondary  $\epsilon$ -filter blocks and an addition section "adding the minute-amplitude variation component output from the secondary  $\epsilon$ -filter to the smooth skin image output from the primary  $\epsilon$ -filter block to obtain a natural looking smooth skin image preserving a grain and texture of the skin." Regarding claim 4, no prior art has been found to disclose or suggest an image processing apparatus comprising an extended  $\epsilon$ -filter block, an ordinary  $\epsilon$ -filter block and a minute amplitude component adjustment section "adding the minute-amplitude variation component output from the ordinary  $\epsilon$ -filter to the wrinkle enhanced or the smooth skin image output from the extended  $\epsilon$ -filter or subtracting the minute-amplitude variation component output from the ordinary  $\epsilon$ -filter from the wrinkle enhanced or the smooth skin image

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output from the extended  $\varepsilon$ -filter block, according to the correction instruction in order to obtain a natural looking smooth or wrinkle enhanced skin image with a grain and texture of a skin held in an original state.” Regarding claim 5, no prior art has been found to disclose or suggest an image processing apparatus with “a calculation section for calculating selectively a variation component having an amplitude between the two amplitude values given as  $\beta_h$  and  $\beta_l$  from the input signal; a signal processing section for adding the variation component to the input signal or subtracting the variation component from the input signal, according to an instruction from a correction instruction section in order to obtain a natural looking smooth or wrinkle enhanced skin image with a grain and texture of a skin held in an original state; and an output section for outputting at least one of the smooth skin and the wrinkle enhanced image according to the instruction.”

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,771,318 (Fang et al.) discloses an adaptive edge-preserving smoothing filter that is adaptively controlled by a set of control parameters.

U.S. Patent 6,480,300 (Aoyama) discloses an image processing apparatus with a section for creating soft-focus processing conversion image signals by subjecting the

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signals to preset smoothing processing, and a section for inversely converting the signals into digital soft-focus image signals.

U.S. Patent 6,614,944 (Levantovsky) discloses a method of adaptively spatial filtering for enhancing digital images, by subjecting the images to adaptive thresholding.

U.S. Patent 6,665,448 (Maurer) discloses a method of deriving from an existing selective image smoothing filter either a corresponding filter for selective image sharpening, or a corresponding filter for both selective smoothing and selective image sharpening.

U.S. Patent 6,731,821 (Maurer et al.) discloses a system and method of image processing for smoothing, denoising, despeckling and sharpening scanned document images.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas D. Lee whose telephone number is (703) 305-4870. The examiner can normally be reached on Monday-Friday (7:30-5:00), alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (703) 308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thomas D. Lee  
Primary Examiner  
Art Unit 2624

tdl  
January 7, 2005